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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/617,669	07/14/2003	Tadayoshi Nishihama	03500.017424.	3569

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EXAMINER

CHEN, SOPHIA S

ART UNIT PAPER NUMBER

2852

DATE MAILED: 06/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/617,669	NISHIHAMA ET AL.	
	Examiner	Art Unit	
	Sophia S. Chen	2852	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☒ Claim(s) 8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/10/03</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: R13 (Figures 1, 3, and 4) and K (Figures 1, 3, and 4). A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.
3. The disclosure is objected to because of the following informality: Page 17, lines 25-26, "-" and "700V" should not be separated. Appropriate correction is required.

Claim Rejections – 35 U.S.C. §102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1 and 5-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Aita et al. (U.S. Pat. No. 5,757,405)

The patent discloses a charging apparatus comprising: a movable image bearing member 513 having a photosensitive layer (column 8, lines 57-62); a first charging member 511 for charging the image bearing member 513; a second charging member 311 provided upstream of the first charging member 511 with respect to a direction of movement of the image bearing member 513 (Figure 12); the second charging member 311 having an elastic rotary member rubbing against the image bearing member 513 (column 7, lines 49-64); a voltage comprising a direct current and an alternating current superimposed one upon the other 314 is applied to the first charging member 511, and a direct current voltage 312 is applied to the second charging member 311 (column 21, line 62 to column 22, line 8); and the image bearing member 513 having a surface protecting layer covering the photosensitive layer (column 8, lines 57-67 and column 10, lines 48-49).

Claim Rejections – 35 U.S.C. §103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aita et al. in view of Masuda et al. (U.S. Pat. No. 5,659,854)

Aita et al., as discussed above, differs from the instant claimed invention in not disclosing the elastic rotary member having a foamed rubber layer as a surface (emphasis added) of the elastic rotary member, the foamed rubber layer having 20-40 degrees (Asker C hardness), and an electrical resistance of the foamed rubber layer being 10^7 to $10^9 \Omega$.

Masuda et al. discloses an image forming apparatus comprising an image bearing member 5; a charging member (elastic rotary member) 1 having a foamed rubber layer as a surface of the elastic rotary member 1 (polyurethane; column 6, lines 1-6 and 30-39); the foamed rubber layer having 20-40 degrees (Asker C hardness) (preferably up to 42 degrees; column 7, lines 28-33); and an electrical resistance (equivalent to volume resistivity per 1 cm) of the foamed rubber layer being 10^7 to $10^9 \Omega$ (column 7, lines 26-28).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the surface foamed rubber layer as taught by Masuda et

al. to the elastic rotary member of Aita et al. to improve charging properties, minimize adhesion and fusing of toner, and have a longer-life (Masuda et al., column 2, lines 40-44).

Allowable Subject Matter

9. Claim 8 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Other Prior Art

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kaname et al. (U.S. Pat. No. 5,842,081) discloses an image forming apparatus comprising an image bearing member; a first charging member; a second charging member provided upstream of the first charging member with respect to a direction of movement of the image bearing member; a DC voltage being provided to the first charging member; and a DC voltage and an AC voltage superimposed on upon the other being provided to the second charging member.

Momotani et al. (U.S. Pat. No. 5,881,343) discloses an image forming apparatus comprising an image bearing member; a first charging member; a second charging member provided upstream of the first charging member with respect to a direction of movement of the image bearing member; a DC voltage being provided to the first charging member; and a DC voltage being provided to the second charging member.

Mayuzumi et al. (U.S. Pat. No. 6,023,597) discloses an image forming apparatus comprising a charging roller having a foamed rubber layer with electrical resistance of $10^6 \Omega$.

Ota (U.S. Pat. Pub. No. US 2003/0235419 A1) discloses an image forming apparatus comprising an image bearing member; a first charging member; a second charging member provided upstream of the first charging member with respect to a direction of movement of the image bearing member; a DC voltage and an AC voltage superimposed on upon the other being provided to the first charging member; and a DC voltage being provided to the second charging member.

Ishiyama et al. (JP 08-050396) discloses an image forming apparatus comprising an image bearing member; a first charging member; a second charging member provided upstream of the first charging member with respect to a direction of movement of the image bearing member.

Hashimoto (JP 2000-284570) discloses an image forming apparatus comprising an image bearing member; a first charging member; a second charging member provided upstream of the first charging member with respect to a direction of movement of the image bearing member.


Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sophia S. Chen whose telephone number is (703) 308-7617. The examiner can normally be reached on M-F (7:00-3:00) First Friday Off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Arthur Grimley can be reached on (703) 308-1373. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Sophia S. Chen
Primary Examiner
Art Unit 2852

Ssc
June 14, 2004